

Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application:

1. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, said ~~gateway working in an event driven manner controlled via an operation administration and maintenance module, said event driven~~ gateway comprising:

a network inbound queue for the reception of instructions related to said data content transfer;

a scheduler for processing said instructions ~~parsing said instructions for directives~~ comprising:

~~Push and Pull transmissions, and~~

to determine broadcast times and schedule related to said transmissions for said data content;

~~a content fetcher for the extraction of said data content based upon said directives;~~

a data processor for encoding said ~~extracted~~ data content for digital radio broadcast transmission;

an addressing module for ~~parsing~~ processing said instructions for extracting addressing instructions information, and

an outbound queue for storing said encoded data content ~~broadcast transmission of said encoded data content based upon said parsed addressing instructions and said~~ schedule.

2. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a device profile database, said device profile database holding profiles associated with ~~iBOC~~ IBOC enabled consumer devices, and each of said profiles defining one or more specific data content formats for said broadcast transmission via said outbound queue to one or more clients.

3. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 2, wherein said instructions ~~related to data content transfer~~ further ~~comprises~~ comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

4. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises ~~an identification (ID) processor a Push ID/Originator ID extractor~~ for extracting a unique ID associated with a sender of said ~~received~~ instructions, assigning a unique ID associated with said Push transmissions, and storing said ~~Push ID/Originator ID in a Push recorder~~ unique ID associated with the sender of said instructions and said unique ID associated with Push transmissions.

5. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises ~~a Push an authenticator for authentication of said authenticating a sender of said received~~ instructions.

6. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 4, wherein ~~said outbound queue further comprises~~ comprising a network outbound queue and ~~a broadcast outbound queue~~, said network outbound queue transmitting data content to said sender of said ~~received~~ instructions and ~~said broadcast outbound queue transmitting data content to an external broadcasting network.~~

7. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 6, wherein said ~~broadcast network~~ digital radio broadcast transmission is an in-band on-channel (IBOC) ~~network~~ digital radio broadcast transmission.

8. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a bandwidth module for bandwidth management, said bandwidth module maintaining queues and prioritizing flows per quality of service (QoS) traffic attributes while managing resources ~~keeping resource starvation to a minimum.~~

9. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 8, wherein said queues ~~further~~ comprise an active queue and a passive queue, said active queue storing data content currently being transmitted and said passive queue storing pushed and pulled data content.

10. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a cache for holding said data content to be ~~transmitted~~ broadcast.

11. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said instructions ~~related to said data content transfer~~ comprise precompiled binary data for transmission.

12. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said scheduler further ~~passes for pushed zone~~ processes information defining various time zones for broadcasting said encoded data content.

13. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said instructions include a unique identifier, said identifier used in targeting said transmitted data content to a specific user agent.

14. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 13, wherein said identifier is an URI or a numeric value.

15. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said data processor ~~further~~ comprises a data transformer and a data encoder, said data transformer converting said ~~extracted~~ data content into a specific format and said data encoder encapsulating said ~~extracted~~ data content in a specific format.

16. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 15, wherein said encoder is a Turbo Broadcast Layer (TBL) encoder.

17. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway communicates to external networks via any of the following protocols: point-to-point protocol (PPP), hypertext transfer protocol (HTTP), or wireless access protocol.

18. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said ~~transmitted~~ data content is in any one of the following formats: binary, plain text, HTML, XML, or WML.

19. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway ~~further~~ comprises a timer for tracking a predefined timeout for which transmission of data content occurs.

20. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway is networked for synchronized scheduling with one or more similar gateways ~~and said transmitted data propagates through said network of gateways before reaching one or more client devices.~~

21. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said ~~parsed directives~~ instructions further include any of the following: time at which transmission is to commence, time at which transmission is to cease, or rate at which data content to be transmitted needs to be repeated.

22. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said information gateway receives data content ~~is extracted~~ over a network.

23. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 22, wherein said network ~~is~~ comprises any of the following: local area network, wide area network, wireless network, or Internet.

24. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a network database ~~supplying the content fetcher with locations of remote~~ identifying other databases from which information ~~is to be extracted~~ can be received.

25. (Currently Amended) A ~~datacasting Push-Pull~~ gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

26. (Currently Amended) A method for scheduling over the air transmissions via ~~an event-driven Push-Pull~~ a gateway, said method comprising the steps of:

- a. receiving ~~a Push request~~ instructions from a content provider relating to broadcast of data content center;
- b. authenticating said content provider ~~center as originator of said Push request~~;
- c. ~~parsing said Push request for push, pull,~~ processing said instructions to determine broadcast times, times and addressing directives information for said data content;
- d. ~~fetching~~ receiving said data content ~~to be pulled over via~~ a network based upon said ~~Push and Pull directives~~;
- e. encoding said ~~fetches~~ data content for digital radio broadcast transmission, and
- f. ~~transmitting~~ storing said encoded data content ~~to clients based upon said broadcast times and said addressing directives~~.

27. (Currently Amended) A method for scheduling over the air transmissions via ~~an event-driven Push-Pull~~ a gateway, as per claim 26, wherein said method further comprises the step of accessing a subscription profile database to identify one or more specific data content formats associated with said clients.

28. (Currently Amended) A method for scheduling over the air transmissions via ~~an event-driven Push-Pull~~ a gateway, as per claim 27, wherein said method further comprises the step of receiving a request from one or more of said clients identifying said one or more specific data content formats associated with data content ~~transmission~~.

29. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 26, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

30. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 26, wherein said method further comprises the step of maintaining a cache for holding said encoded data content for transmission.

31. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 26, wherein said ~~received Push request~~ further communication comprises a unique identifier, said identifier used in targeting encoded data to a specific ~~user agent associated with said client~~.

32. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 31, wherein said identifier is an URI or a numeric value.

33. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 26, wherein said ~~received Push request~~ further communication comprises information defining various time ~~of day and~~ zones for broadcasting encoded data content.

34. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 26, wherein said method further comprises the step of converting said ~~fetched~~ data content into a specific format.

35. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 34, wherein said specific format is any of the following: plain text, binary data, HTML, WML, or XML.

36. (Currently Amended) A method for scheduling over the air transmissions via ~~an event driven Push-Pull~~ a gateway, as per claim 26, wherein said network ~~is comprises~~ any of the following: local area network (LAN), wide area network (WAN), wireless networks, HFC Network, LMDS satellite network, or the Internet.

37. (Cancelled)

38. (Cancelled)

39. (Currently Amended) An article of manufacture comprising a computer usable medium having computer readable program code embodied therein ~~that schedules for~~ scheduling over the air transmissions via ~~an event-driven Push-Pull~~ a gateway, said article ~~comprising computer readable program code being adapted to a cause a processing system~~ to:

- a. ~~computer readable program code receiving a Push request~~ receive instructions from a content provider relating to broadcast of data content ~~center~~;
- b. ~~computer readable program code authenticating~~ authenticate said content provider ~~center as originator of said Push request~~;
- c. ~~computer readable program code parsing said Push request for push, pull,~~ process said communication to determine broadcast times, times and addressing directives information for said data content;
- d. ~~computer readable program code fetching~~ receive said data content ~~to be pulled over via a network based upon said Push and Pull directives~~;
- e. ~~computer readable program code encoding said fetched data~~ encode said data content for digital radio broadcast transmission, and
- f. ~~computer readable program code transmitting~~ store said encoded data content ~~based upon said broadcast times and said addressing directives~~.

40. (Currently Amended) An article of manufacture comprising a computer usable medium having computer readable program code embodied therein ~~that schedules for~~ scheduling over the air transmissions via ~~an event-driven Push-Pull~~ a gateway, as per claim 39, wherein said article further comprises computer readable program code ~~for encoding~~ adapted to cause a processing system to encode said data content in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

41-64. (Canceled)

65. (New) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said method further comprises transmitting said encoded data via IBOC radio broadcast transmission to clients based upon said broadcast times and said addressing information.

66. (New) A system for scheduling over the air transmissions of data content, comprising:

a gateway for scheduling over the air transmissions of data content according to claim 1; and

a content provider center configured to communicate with an application service provider, said content provider center configured to process instructions from said application service provider for processing said data content.

67. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a subscription client device profile database, said subscription client device profile database holding profiles associated with said clients, and each of said profiles defining one or more specific data content formats for said broadcast transmissions via said outbound queue to one or more consumer client devices.

68. (New) A system for scheduling over the air transmissions of data content, as per claim 67, wherein said instructions further comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

69. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises identification (ID) processor for extracting a unique ID associated with a sender of said instructions, assigning a unique ID associated with Push transmissions, and storing said unique ID associated with the sender of said instructions and said unique ID associated with Push transmissions.

70. (New) A system for scheduling over the air transmissions of data content, as per claim 69, wherein said gateway further comprises an authenticator for authenticating a sender of said instructions.

71. (New) A system for scheduling over the air transmissions of data content, as per claim 69, further comprising a network outbound queue, said network outbound queue transmitting data content to said sender of said instructions.

72. (New) A system for scheduling over the air transmissions of data content, as per claim 71, wherein said digital radio broadcast transmission is an in-band on-channel (IBOC) digital radio broadcast transmission.

73. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a bandwidth module for bandwidth management, said bandwidth module maintaining queues and prioritizing flows per quality of service (QoS) traffic attributes while managing resources.

74. (New) A system for scheduling over the air transmissions of data content, as per claim 73, wherein said queues comprise an active queue and a passive queue, said active queue storing data content currently being transmitted and said passive queue storing pushed and pulled data content.

75. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a cache for holding said data content to be broadcast.

76. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said instructions comprise precompiled binary data for transmission.

77. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said scheduler further processes information defining various time zones for broadcasting said encoded data content.

78. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said instructions include a unique identifier, said identifier used in targeting said transmitted data content to a specific user agent.

79. (New) A system for scheduling over the air transmissions of data content, as per claim 78, wherein said identifier is an URI or a numeric value.

80. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said data processor further comprises a data transformer and a data encoder, said data transformer converting said data content into a specific format and said data encoder encapsulating said data content in a specific format.

81. (New) A system for scheduling over the air transmissions of data content, as per claim 80, wherein said encoder is a Turbo Broadcast Layer (TBL) encoder.

82. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway communicates to external networks via any of the following protocols: point-to-point protocol (PPP), hypertext transfer protocol (HTTP), wireless access protocol, satellite networks, or wireless access protocol.

83. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said data content is in one of the following formats: binary, plain text, HTML, XML, or WML.

84. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway comprises a timer for tracking a predefined timeout for which transmission of data content occurs.

85. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway is networked for synchronized scheduling with one or more similar gateways.

86. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said instructions further include any of the following: time at which transmission is to commence, time at which transmission is to cease, or rate at which data content to be transmitted needs to be repeated.

87. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway receives data content over a network and said network comprises any of the following: local area network, wide area network, wireless network, HFC networks or Internet.

88. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a network database identifying other databases from which information can be received.

89. (New) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.